



Platte River
Power Authority

Estes Park • Fort Collins • Longmont • Loveland

Board of directors

Oct. 31, 2019



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Executive session

Oct. 31, 2019



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2020 proposed strategic budget update

Agenda

- Budget changes since work session
- Financial results
- Highlights – 2020 strategic budget

Budget changes since work session

- Production cost model updates
 - Reduction in market price assumptions
 - Addition of 2 MW to new solar facility
- Refinements to departmental operations and maintenance expenses
- Updates to capital projects
- Updates to depreciation and amortization
 - Asset retirement obligations

Budget changes since work session

<ul style="list-style-type: none"> ⬇ Sales to owner communities (\$0.1M) <ul style="list-style-type: none"> ▪ Final adjustments for alignment with the new rate structure 	<ul style="list-style-type: none"> ⬇ Sales for resale (\$7.3M) <ul style="list-style-type: none"> ▪ Production cost model updates ▪ Decrease <ul style="list-style-type: none"> ▪ 9.8% average price to \$23.87 from \$26.44 ▪ 10% volume
<ul style="list-style-type: none"> ⬇ Interest income (\$0.3M) <ul style="list-style-type: none"> ▪ Decrease in interest rate projections 	<ul style="list-style-type: none"> ⬇ Purchased power \$0.9M <ul style="list-style-type: none"> ▪ Decrease primarily as a result of the decrease in the sales for resale average market price ▪ Partially offset by an increase for 2 MW added to the new solar facility
<ul style="list-style-type: none"> ⬇ Fuel \$2.9M <ul style="list-style-type: none"> ▪ Decrease in coal and natural gas generation as a result of the decrease in the sales for resale average market price 	<ul style="list-style-type: none"> ⬇ Other expenses \$0.8M <ul style="list-style-type: none"> ▪ Decreases: medical expenses based on claims experience and change in brokers, various other expenses (net) ▪ Increases: mill overlay at the Danfield parking lot
<ul style="list-style-type: none"> ⬆ Capital additions (\$1M) <ul style="list-style-type: none"> ▪ Headquarters campus overhead doors, Energy Engagement Center cost estimates including video wall ▪ Other new and refined projects 	<ul style="list-style-type: none"> ⬆ Depreciation and amortization (\$1M) <ul style="list-style-type: none"> ▪ Accounting pronouncement for asset retirement obligations related to Rawhide structures and impoundments ▪ Other new and refined capital projects

(unfavorable)/favorable change

Financial impact

\$ in thousands	Proposed budget	Prices & model update impacts	Other O&M net decrease	Capital & depreciation & amortization increase*	Favorable (unfavorable) changes	Updated proposed budget
Revenues						
Sales to owner communities	\$ 198,750	\$ (62)			\$ (62)	\$ 198,688
Sales for resale - contract	14,453	1			1	14,454
Sales for resale - short-term	24,968	(7,361)			(7,361)	17,607
Wheeling	5,918				-	5,918
Interest and other income	4,155	(292)			(292)	3,863
<i>Total revenues</i>	\$ 248,244	\$ (7,714)			\$ (7,714)	\$ 240,530
Operating expenses						
Purchased power	\$ 45,483	\$ 690	\$ 194		\$ 884	\$ 44,599
Fuel	48,829	2,857	19		2,876	45,953
Production	48,572	(84)	768		684	47,888
Transmission	17,516		232		232	17,284
Administrative and general	22,723		277		277	22,446
Distributed energy resources	11,844		(319)		(319)	12,163
<i>Total operating expenses</i>	\$ 194,967	\$ 3,463	\$ 1,171		\$ 4,634	\$ 190,333
Capital additions						
Production	\$ 30,087			\$ 367	\$ 367	\$ 29,720
Transmission	24,440			5	5	24,435
General	9,395			(1,352)	(1,352)	10,747
<i>Total capital additions</i>	\$ 63,922			\$ (980)	\$ (980)	\$ 64,902
<i>Total operating expenses and capital additions</i>	\$ 258,889	\$ 3,463	\$ 1,171	\$ (980)	\$ 3,654	\$ 255,235
Debt expense	\$ 23,110				\$ -	\$ 23,110
Total expenditures	\$ 281,999	\$ 3,463	\$ 1,171	\$ (980)	\$ 3,654	\$ 278,345
Contingency appropriation	\$ 26,000				\$ -	\$ 26,000
Total expenditures and contingency	\$ 307,999	\$ 3,463	\$ 1,171	\$ (980)	\$ 3,654	\$ 304,345
Net income	\$ 21,269	\$ (4,251)	\$ 1,171	\$ (1,007)	\$ (4,087)	\$ 17,182

*Depreciation and amortization expense increased by approximately \$1M impacting net income.

Proposed strategic budget

Financial results

Strategic financial plan indicators	Target minimums	2019 budget	2020 budget	Increase (decrease)	
Net income (\$ millions)	3% of projected operating expenses*	\$ 23.0	\$ 17.2	↓	(25.2%)
Fixed obligation charge coverage ratio	1.50x	2.60x	2.17x	↓	(16.5%)
Debt ratio	< 50%	36%	34%	↓	(5.6%)
Unrestricted days cash on hand	200	313	247**	↓	(21.1%)

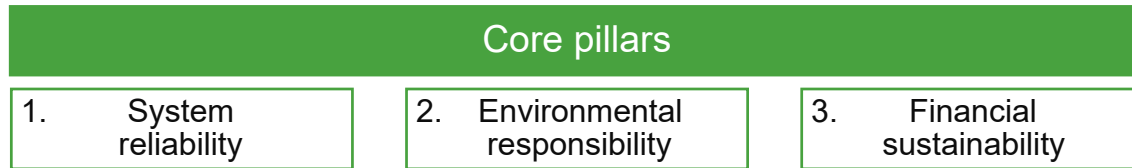
* 3% of projected operating expenses for 2019 and 2020 is \$5.4M and \$5.7M, respectively.

** Will change with the update to the 2019 estimate with the final budget document.

Budget results	2019 budget	2020 budget	Increase (decrease)	
Total revenues (\$ millions)	\$ 231.3	\$ 240.5	↑	4.0%
Total expenditures (\$ millions)	\$ 254.8	\$ 278.3	↑	9.2%
Board contingency (\$ millions)	\$ 23.0 [†]	\$ 26.0	↑	13.0%

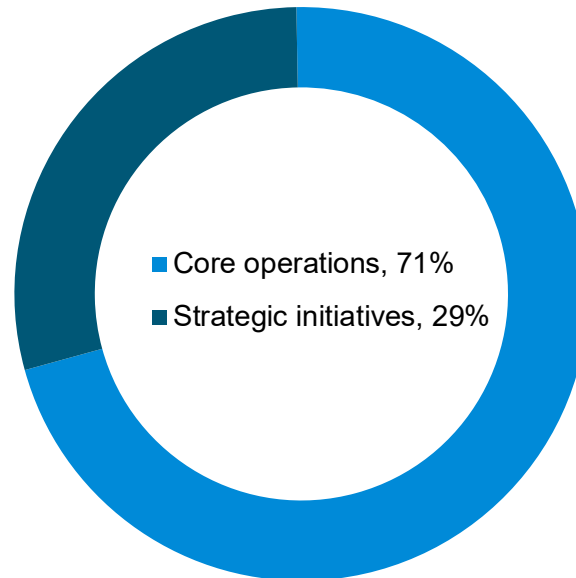
[†] Contingency transfer required for 2019 capital additions. Amount to be determined later in the year.

Highlights – 2020 strategic budget



Operating expenses and capital additions: \$255.2 million

- **DER** (EE, DR, DER)
- **Public engagement & communications**
- **Resource planning** (new noncarbon resources and DER strategy)
- **Infrastructure advancement** (debt financing)
- **Headquarters campus and Energy Engagement Center**



- **Baseload and peaking generation, transmission**
- **PPAs for existing renewable resources & hydropower**
- **Predictive maintenance**
- **Proactive capital investments**

- **New rate structure and no rate increase to owner communities**
- **New long-term contract sales for resale**

2020 budget: \$304M

Questions



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Vision, mission and values

Proposed changes

Agreed upon:

- Change the order: Vision, mission and values
- Eliminated as much passive voice as possible
- Simplified language and shortened statements
- Edited mission to reflect language in Resource Diversification Policy

Further discussion

- Mission
- Resource Diversification Policy – financial sustainability pillar



Mission

Current mission

Provide safe, reliable, environmentally responsible and competitively priced energy and services.

Mission - proposed v1 – staff recommended

While driving utility innovation, Platte River will safely provide reliable, environmentally responsible and financially sustainable energy and services to the owner communities of Estes Park, Fort Collins, Longmont and Loveland.

Mission – proposed v2

While driving utility innovation, Platte River will safely provide reliable, environmentally responsible and financially sustainable and fiscally efficient energy and services to the owner communities of Estes Park, Fort Collins, Longmont and Loveland.



Resource diversification policy

Current

Financially sustainable – staff recommended

Platte River's strategic financial plan (SFP) is designed to provide long-term financial viability, manage financial risk and support Platte River's mission, vision and values. Financial metrics have been established in consideration of rating agency guidelines. To manage financial assets and risk, staff will continue to implement and maintain prudent business practices in the management of reserves, maintain the enterprise risk management program and comply with financial policies. Rates shall be established to generate adequate cash flows and maintain access to low-cost capital while providing wholesale rate stability. Platte River will continue to establish and offer competitive rates and services to provide value to our four owner communities.



Resource diversification policy

Option 1

Financially sustainable

Platte River's strategic financial plan (SFP) is designed to provide long-term financial viability, manage financial risk and support Platte River's mission, vision and values. Financial metrics have been established in consideration of rating agency guidelines. To manage financial assets and risk, staff will continue to implement and maintain **fiscally efficient business practices** in the management of reserves, maintain the enterprise risk management program and comply with financial policies. Rates shall be established to generate adequate cash flows and maintain access to low-cost capital while providing wholesale rate stability. Platte River will continue to establish and offer competitive rates and services to provide value to our four owner communities.



Resource diversification policy

Option 2

Financially sustainable and fiscally efficient

Platte River's strategic financial plan (SFP) is designed to provide long-term financial viability, manage financial risk and support Platte River's mission, vision and values. Financial metrics have been established in consideration of rating agency guidelines. To manage financial assets and risk, staff will continue to implement and maintain prudent business practices in the management of reserves, maintain the enterprise risk management program and comply with financial policies. Rates shall be established to generate adequate cash flows and maintain access to low-cost capital while providing wholesale rate stability. Platte River will continue to establish and offer competitive rates and services to provide value to our four owner communities.





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Energy imbalance market update

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Agenda

- What is an energy imbalance market (EIM)?
 - Key aspects of an EIM
 - Differences between the Joint Dispatch Agreement (JDA), an EIM and a full energy market (FEM)
- Overview of various EIM options
 - Joint Dispatch Agreement – existing arrangement
 - Western Energy Imbalance Market-WEIM (CA)
 - Western Energy Imbalance Service-WEIS (SPP)
- Current utility preferences
- Next steps



What is an EIM?

- Leverages geographical diversity of loads and resources in a larger market footprint
- Coordinates real-time interchange schedules to balance generation and load in order to create economic value
- Maximizes the use of transmission capacity made available by transmission owners
- Utilities retain control over their generation and transmission assets



Differences between JDA, EIM and FEM

	JDA (existing)	EIM	FEM
Hourly energy market	Yes	Yes	Yes
Day-ahead market	No	No	Yes
Ancillary services	N/A	Limited	Optimized FEM is BA
Transmission capacity available to market	All OASIS posted	Transmission owner's decision	All
Generation offers into market	Voluntary	Voluntary	Must sell



Joint Dispatch Agreement

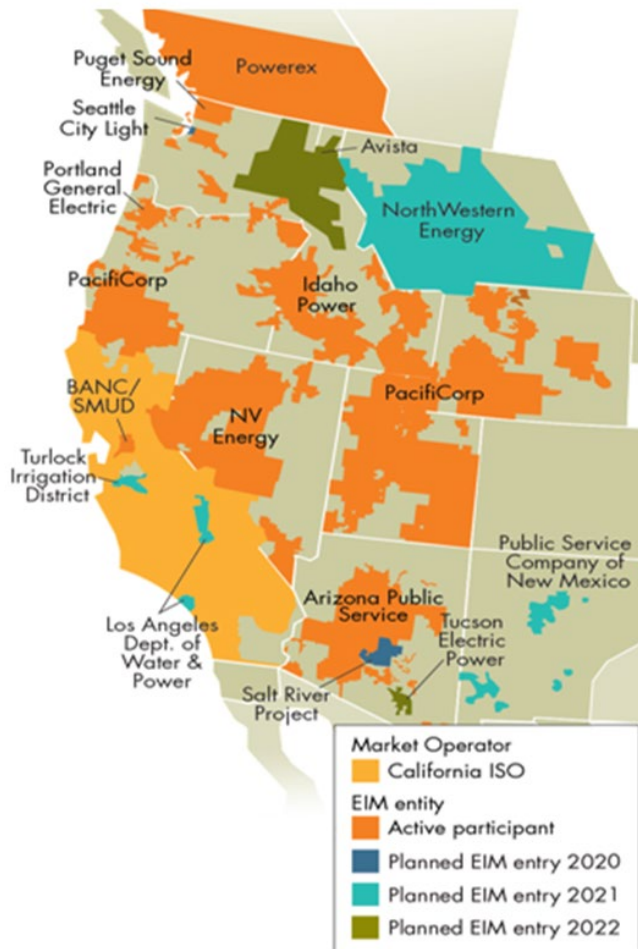


How it works

- Small-scale EIM
- Three entities participating, with fourth to participate soon
- Xcel serves as the market operator and dispatches generation economically based upon generator cost



WEIM



How it works

- Leverages geographical diversity of loads and resources in a larger market footprint
- Automated dispatch minimizes cost, facilitates renewables, resolves imbalance and avoids congestion
- Greater operational visibility enhances reliability
- Low-cost, low risk, no exit fees, voluntary market



WEIS

- SPP is currently operating a FEM in the eastern interconnect
- SPP is willing to provide an energy imbalance service in the west, if sufficient interest exists
- SPP has made a proposal, although much uncertainty exists
 - SPP currently does not operate an imbalance market
 - Systems necessary to operate this market need to be developed
 - Tri-State, WAPA and Basin have committed to participate in SPP WEIS



Key differences between energy imbalance markets

Market features	JDA (existing)	WEIM		WEIS
Generation offers	Out of pocket cost-based offers for generators	Market based offers for generators with CA market monitor oversight		Market based offers for generators with SPP market monitor oversight
Unit commitment	Each entity responsible to commit generation to meet load and other obligations	Commit and decommit resources up to 4 hours ahead to optimize use of system		Each entity responsible to commit generation to meet load and other obligations
Transmission service	No cost non-firm transmission	No cost non-firm transmission		No cost non-firm transmission
Implementation costs	\$500,000	JDA	MWTG	\$6 M (est.)
		\$1.5 M (est.)	\$2.5 M (est.)	
Ongoing administration costs	\$650,000 (est.)	\$1.3 M/year (est.)	\$2.0 M/year (est.)	\$5 M/year (est.)

- JDA is currently conducting a Brattle study to determine the value of each option

Current utility preferences in the western interconnect

WEIM (77% of the utilities within the western interconnect)

WEIS (4% of the utilities within the western interconnect)

- Western Area Power Administration
- Basin Electric
- Tri-State Generation & Transmission

JDA (5% of the utilities within the western interconnect)

The joint dispatch group (Platte River, Black Hills, Xcel and Colorado Springs Utilities) are currently evaluating study results and have yet to make a decision on an EIM



Next steps

- Finalize and develop a plan for participating in an EIM with other members of JDA, as appropriate
- Open a dialog with Colorado regulators and other interested stakeholders
- Participate in Colorado Public Service Commission proceedings advocating for a single energy market in Colorado



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EV charging pilot

Agenda

- Enrollments
- Individual EV load profiles
- Aggregate EV load profiles
- Equipment vendor update
- Dynamic pricing model
- Next steps



2019 EV study enrollments

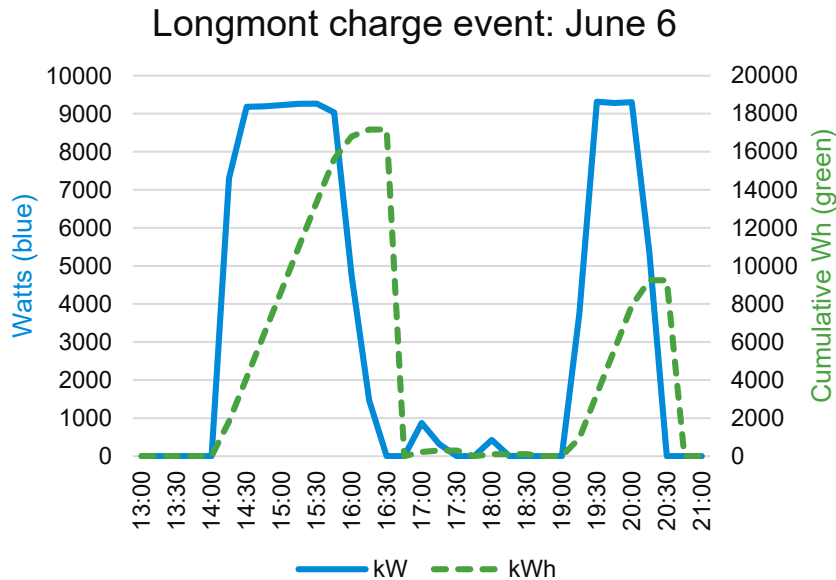
Month	Participants	Offline
Feb	12	1
Mar	12	3
Apr	7	1
May	9	1
Jun	7	3
Jul	4	1
Aug	6	2
Sep	18	10
Oct	≈14	Pending
Total	89	22

Location	Participants
Longmont	27
Loveland	13
Fort Collins	46
Estes Park	3

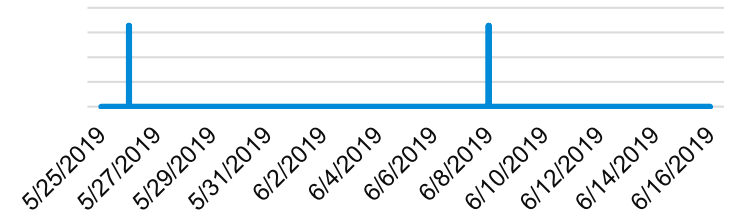
Many more participants and several months of data are needed for a representative sample of EV charging



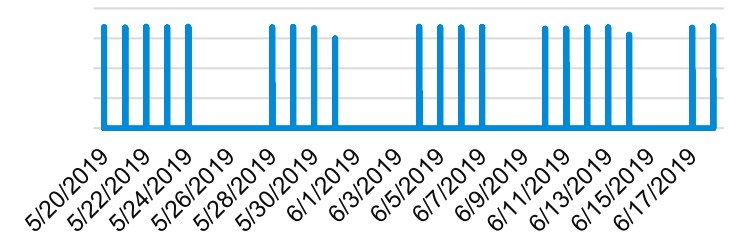
EV charging: load diversity



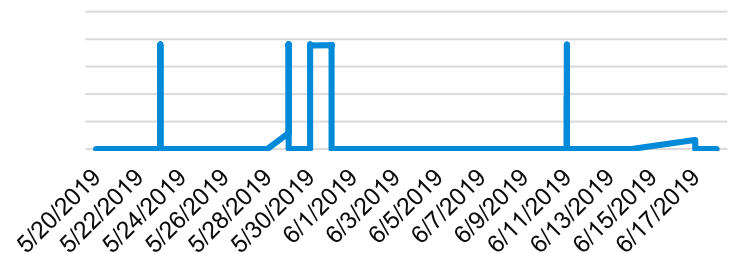
Infrequent top-off charger



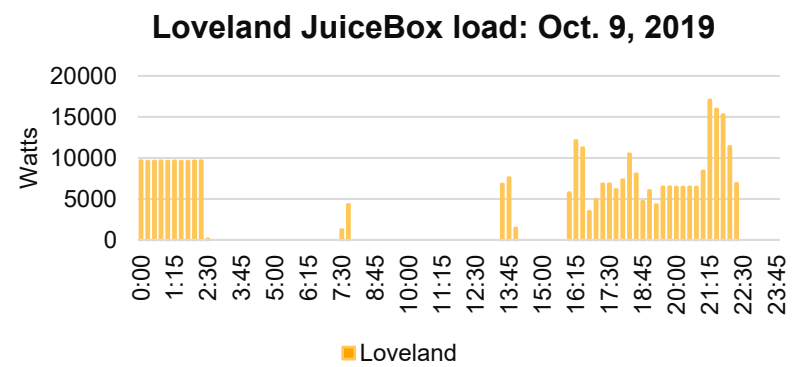
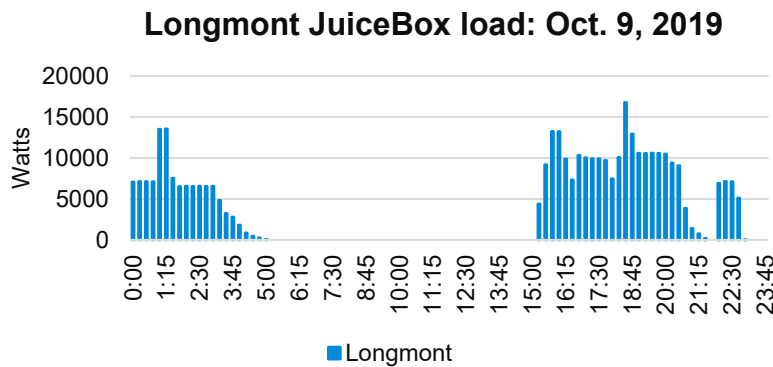
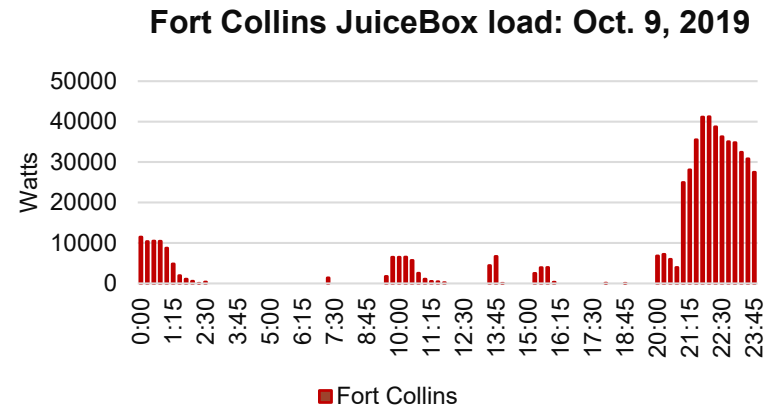
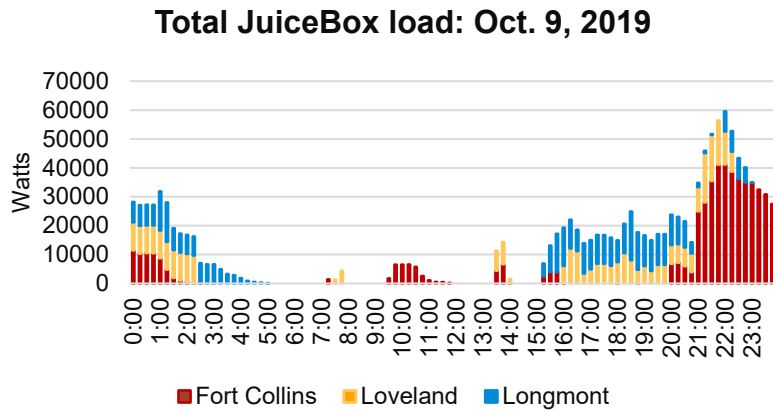
The commuter



Water trough charger



EV charging by community



Extrapolating to 25% of all EVs in region, the total load at 22:00 would be approximately 2 MW

eMotorWerks is now Enel-X

JuiceBox upgrading



Charging as a service

JuicePlan includes:

- JuiceBox Pro 40 smart home charger
- JuiceNet app and dashboard
- Professional installation by a certified electrician
- Customer fees starting at \$0 down, \$19 per month
- Utility sponsorship requirements



2018 Joint Dispatch Agreement

Price signal model

Hour ending	# hours \$0/MWh	# hours >\$40/MWh	Hour ending	# hours \$0/MWh	# hours >\$40/MWh
1	34	0	13	21	10
2	48	0	14	22	8
3	55	0	15	23	12
4	62	0	16	18	18
5	54	0	17	10	31
6	30	1	18	8	35
7	18	8	19	4	25
8	15	7	20	4	10
9	11	5	21	5	7
10	16	5	22	3	2
11	14	8	23	11	0
12	11	10	24	22	0

Full Year: 519 hours \$0/MWh; 202 hours >\$40/MWh

Next steps

2019

- EV study whitepaper presented in September
- Manufacturer's \$154 rebate expired
- Distribution system analysis

2020

- Report of findings
- Provide a managed charging service to participants
- Grow service to workplace and fleet charging

Long-term planning

- Projecting over 33 MW of EV loads by 2030
 - Time-of-use rate may be necessary
 - No one benefits if these EVs are charging on peak

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**Demand side management
and distributed energy resources
IGA update**

Intergovernmental agreement

Intergovernmental agreement (IGA) for demand side management (DSM) and distributed energy resources (DER)

- Executed 2014, updated 2016

The IGA provides framework for DSM & DER program management and funding

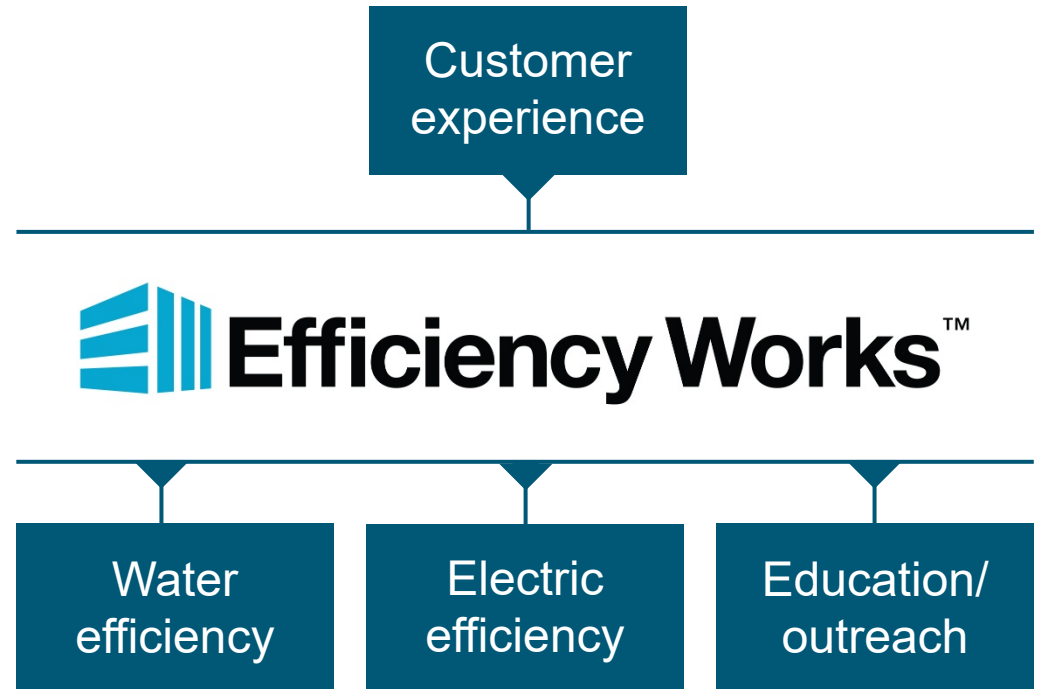
2019 update to IGA includes:

- Addition of “non-electric sustainability services” if requested by and funded by the owner communities and accepted by Platte River
- Remove unused, obsolete language



Electric and non-electric synergy

- Build on collaboration success
- Use the Efficiency Works brand
- Leverage existing efficiency program materials and tools
- Streamline the customer experience for broader program success



IGA: common program offerings

- **Common programs** are programs that are developed by, contracted for and funded by Platte River in order to meet goals and objectives that are shared by Platte River and its owner communities.
 - **Common program funding** is provided by Platte River. Platte River's goal is to provide funding to the owner communities in proportion to load-ratio share.
 - **Supplemental funding** is funding that is provided by an owner community to procure common program services in excess of those provided by Platte River.



IGA: directive program offerings

- **Directive programs** are programs that meet goals and objectives of one or more owner community and that fall outside the common programs. Platte River may provide a directive program upon request by an owner community provided that it is acceptable to Platte River and that it is funded by the owner community.
 - **Directive funding** is funding that is provided by an owner community to Platte River to procure directive programs including those with non-electric sustainability services.



Non-electric / directive implementation

IGA provisions for directive funding and program offerings:

Planning

- Identify opportunity to collaborate
- Develop scope and budget

Implementation

- Owner community issues purchase order
- Platte River implements
 - Tracks spending
 - Reports program performance
 - Applies staff cost allocation
- Platte River invoices owner community(s)



Timeline / next steps

June - September
IGA developed in
collaboration with
owner community staff

Mid-November
Owner community
approval process
to be completed

2019

2020

October 3
Owner community
staff and legal
review completed

December 5
Request Platte River
board approval of IGA



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September operational results

Category	September variance		YTD variance	
Municipal demand	4.9%	●	(2.9%)	■
Municipal energy	4.1%	●	(1.3%)	◆
Baseload generation	(15.8%)	■	(10.7%)	■
Wind generation	25.2%	●	(6.5%)	■
Solar generation	12.2%	●	(5.2%)	■
Surplus sales volume	(22.3%)	■	(10.8%)	■
Surplus sales price	14.7%	●	32.1%	●
Dispatch cost	(3.5%)	●	(0.7%)	◆

Variance key: Favorable: ● >2% | Near budget: ◆ +/- 2% | Unfavorable: ■ <-2%





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Financial summary

Category	September variance from budget (\$ in millions)	Year to date variance from budget (\$ in millions)
Net income	\$0.7 ●	\$10.4 ●
Fixed obligation charge coverage	.51x ●	.65x ●
Revenues	\$0.5 ●	\$0.8 ◆
Operating expenses	\$0.3 ●	\$7.9 ●
Capital additions	\$0.6 ●	\$8.5 ●

> 2% ● Favorable | 2% to -2% ◆ At or near budget | < -2% ■ Unfavorable



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